Expanding Effective 21st Century Access to Historical and Academic Materials: Examples, Strategies and Implications

Carolyn Morris (carolyn@bibliolabs.com)
Vice President, Digital Products, BiblioLabs

Mitchell Davis (mitchell@bibliolabs.com)
Senior Vice President, Business Development, BiblioLabs

Abstract

Given the capabilities for digitization that have emerged in recent years along with mobile access to the internet, new library and business partnerships are now not only possible but also compelling in various ways. HTML5 web apps now make available library collections that historically have been closed or difficult to access. A partnership involving The British Library, Microsoft and BiblioLabs realizes some of these new potentials.

Keywords: British Library; HTML5; BiblioLabs

Sharing Knowledge

Recently, Stanford University announced it would be offering its popular course, "Introduction to Artificial Intelligence," free and online (http://www.ai-class.com/). The class taught by Professors Sebastian Thrun and Peter Norvig registered over 67,000 people in just two weeks. The class will cover the same material and have the same level of testing as the traditional Stanford class. The professors teaching the online course hope to reach 200,000 people and stimulate interest and advancements in Artificial Intelligence (AI). People completing the course will receive a grade and a certificate from the professors but no official Stanford credit or recognition. The response is truly stunning and reflects a demand for access to scholarly content beyond academia's traditional constituencies.

The technologies that make this course possible are transformative because they enable collaboration on a monumental scale. The plan is to allow online students to get the full benefit of a Stanford course. They take quizzes, exams, and turn in homework, all of which will be autograded. Participants will also be able submit questions and vote on which questions they would like Professors Thrun and Norvig to answer. In the past, this course was open to 200

Stanford students a year. Now, high school students, amateur programmers, entrepreneurs, and geeks at large can all acquire the same foundation in Artificial Intelligence free of charge. If this Stanford experiment is successful, the number people able to contribute meaningfully to AI research could expand rapidly.

The evidence for such an impact tends to be anecdotal, but it does exist. In the documentary film, "Breaking the Maya Code," based on the book by Michael Coe, viewers are offered a fascinating view into the history of Maya research. The research progressed slowly and in isolated pockets until the advent of the Xerox machine in the 1970s. Suddenly, both professional and amateur enthusiasts could share their research materials. They could copy photographs and sketches of hieroglyphs and easily share them with anyone interested. Prior to this, there were three places in the world to access the information needed to work on decoding the script. The Xerox machine democratized the discovery process and many of the advancements in decoding were made by amateur enthusiasts. The photocopying technology enabled wide scale collaboration that ultimately accelerated exponentially the rate of progress in Maya research. In the film, those being interviewed reflected on the whole experience as "magic." Of course, the

internet amplified this "magic" in the late 20th century, and now in 2011 we stand on the edge of the next generation of computing interfaces that will deliver their own magic results.

All of this gives hope that the collections libraries have spent centuries building will hold appeal to more than a select few. "Breaking the Maya Code" credits libraries with safekeeping for hundreds of years the few remaining documents produced in ancient Maya. Without these documents, the Maya code may never have been deciphered. However, the film also points out how limited access (necessitated by the physicality of the documents) slowed research. New technologies have the potential to open up library collections to a far greater extent than has ever been possible before, and most libraries are eager to embrace this.

June, 2011: A New Breakthrough

More encouraging yet, when libraries are able to extend access, there is intense public interest. In June of this year, the British Library released the British Library 19th Century Collection iPad application (http://itunes.apple.com/us/app/british-library-19th-century/id438196905?mt=8). In the first week of availability over 100,000 people worldwide downloaded the app, and to date it has almost 200,000 users. (By comparison, the *New Yorker* online magazine has only 100,000 readers and has been available for a longer time.) When the app was released in June, Twitter was active with praise for the app with people sharing their finds and offering development advice—collaboration.

Many of the books displayed in the app may not have been viewed for over a hundred years. More than 60% of the titles in the app are not available elsewhere online, and prior to the release, a researcher or casual reader would have had to get to London, make a Reading Room appointment and request books to review on-site. Now, anyone with an iPad can easily browse 40,000 titles and download titles of interest for offline reading. The iPad displays these color image files in exquisite detail provided to the Library by Microsoft. Users can see embossed covers, marbled end papers, maps,

engravings, authors' signatures and other markings in the books as if they were holding the original items. It is a completely different experience from reading an e-book on a personal computer and for some people this will be far more compelling.

Following close behind the iPad app and further increasing accessibility, HTML5 web apps are making these historical content experiences available to more people. The HTML5 standard brings to the web browser the same interactivity that users are finding in iOS / iPad apps today. What all of this is teaching us is that interfaces matter a lot, and that when you change the underlying paradigm of what holds an interface together, you change the context completely. We are at the very beginning of that revolution.

An apt analogy may be that these new interfaces tear down the "fourth wall," a term used in theatre to describe the invisible wall at the front of the stage between the actors and the audience. In the 1960s, experimental theatre "tore down this wall" by sending actors into the crowd and immersing them in the media of the play. What is happening with computing today is very similar, and libraries are just beginning to make the shift to offering services in this new interactive media space.

Another important part of the experience in historical content is curation—something libraries have provided to society for generations. The new world of information is starving for context, and that is exactly what librarians can provide with these new interfaces. For example, The British Library 19th Century App provides an in-App curator service to help users find interesting and relevant books.

The real opportunity that tablet devices and HTML5 offer libraries is the ability to share curated collections of source materials, images, sounds, and other media that are not necessarily text based and could not be easily distributed in the past. The New York Public Library's Biblion: The World's Fair is another fantastic example of what can be accomplished using these technologies. In this case, the Library opted to start with its most popular special collection, and over 100,000 people explored the

collection via the iPad in the first 2 months. By the time this article is published, there will also be a web-based version of Biblion. The visuals are stunning, and future Biblion apps are likely to inspire new interest in other collections as well as in the Library itself.

Still, the task of extending access is immense given the breadth of materials that still require scanning. If one were to view five items per day from the British Library, it would take over 80,000 years to see the entire collection as it stands today. Digitizing a mere 250,000 books has an estimated cost of over 9 million dollars, and digitization is just the beginning of providing access. Making items discoverable and usable requires much additional work.

The Partnership Model

Opening up library content to the widest possible audience will require libraries to develop partnerships and create new business models that help sustain the effort. In the case of The British Library 19th Century Collection, the Library was able to partner with Microsoft to fund the digitization and with BiblioLabs to build the next generation applications that provide access and utility. BiblioLabs absorbed the cost of developing the application, the costs of marketing (to both consumers and institutions) and the costs of keeping a massive corpus of work available at a user's fingertips. All will share in any revenue it generates. The Library participated fully in the design process but did not need to allocate financial or technical resources for the project. This partnership has allowed the Library to broadly expand its exposure and become a global leader in an emerging media space.

Both the Library and BiblioLabs note that the key to making these partnerships work is creative thinking rather than "one-size fits all" solutions. By shifting the digitization and access conversation to cooperative business models there are more options for meeting the challenge of long-term sustainability. Another important factor is that all parties involved are mutually interested in pricing access to the collections so as many people as possible can enjoy them. The costs involved in delivering these types of ser-

vices have dropped enormously in the past 10 years, and the new paradigm expands access enormously by keeping the price for end users, both consumers and institutions, minimal.

Different business models will be required for different situations, and the permutations will only increase as libraries start serving more virtual patrons, but partnerships offer the best hope of advancing knowledge through expanding access to the world's library collections. And if history is any teacher—when *organized* information is made easy to access and use, creative thinking flourishes and seemingly impossible problems get resolved. Libraries and private business are using creative business partnerships and innovation on emerging computing platforms to once again create "magic" in the world.